IN THE CLAIMS:

1. (Canceled)

2. (Currently Amended) The fiber optics transmission line according to claim ~~1,~~ ~~characterized in that~~ 31, wherein the graded index fiber is fusion spliced to the single mode fiber in the middle of the fiber optics transmission line.

3. (Canceled)

4. (Currently Amended) The fiber optics transmission line according to claim ~~3,~~ ~~characterized in that~~ 31, wherein the length of the graded index fiber having ~~a~~ the mode field diameter gradually increasing from ~~a~~ the light entry side and decreasing toward ~~a~~ the light exit side is 1/2 of a pitch, where one pitch denotes a length of the transmission line corresponding to one cycle during which the mode field ~~filed~~ diameter of a light periodically changes along the transmission line.

5. (Currently Amended) The fiber optics transmission line according to claim 4, ~~characterized in that~~ wherein the length of the graded index fiber having ~~a~~ the mode field diameter gradually increasing from ~~a~~ the light entry side and the length of the graded index fiber having ~~a~~ the mode filed diameter decreasing toward ~~a~~ the light exit side, are both 1/4 of a pitch.

6. (Canceled)

7. (Canceled)

8. (Currently Amended) The fiber optics transmission line according to claim 31, ~~characterized in that~~ wherein the expanded mode field diameter of the graded index fiber falls within a range from 15 to 85 μm.

9. (Currently Amended) The fiber optics transmission line according to claim 8,

~~characterized in that~~ wherein the expanded mode field diameter of the graded index fiber falls within a range from 15 to 65 μm.

10. (Currently Amended) The fiber optics transmission line according to claim 31, ~~characterized in that~~ wherein the core diameter of the graded index fiber is 1.5 times or more the expanded mode field diameter of the graded index fiber, which is obtained at a location 1/4 of a pitch from the light entry side thereof.

11. (Currently Amended) The fiber optics transmission line according to claim 10, ~~characterized in that~~ wherein the core diameter of the graded index fiber is 2 times or more the expanded mode field diameter of the graded index fiber, which is obtained at a location 1/4 of a pitch from the light entry side thereof.

12. (Canceled)

13. (Canceled)

14. (Canceled)

15. (Canceled)

16. (Canceled)

17. (Canceled)

18. (Currently Amended) The fiber optics transmission line according to claim ~~13,~~ ~~characterized in that~~ 32, wherein the expanded mode field diameter of the graded index fiber falls within a range from 15 to 85 μm.

19. (Currently Amended) The fiber optics transmission line according to claim 18, ~~characterized in that~~ wherein the expanded mode field diameter of the graded index

fiber falls within a range from 15 to 65 μm.

20. (Currently Amended) The fiber optics transmission line according to claim ~~13, characterized in that~~ 32, wherein the core diameter of the graded index fiber is 1.5 times or more the expanded mode field diameter of the graded index fiber, which is obtained at a location 1/4 of a pitch from the light entry side thereof.

21. (Currently Amended) The fiber optics transmission line according to claim 20, ~~characterized in that~~ wherein the core diameter of the graded index fiber is 2 times or more the expanded mode field diameter of the graded index fiber, which is obtained at a location 1/4 of a pitch from the light entry side thereof.

22. (Canceled)

23. (Canceled)

24. (Currently Amended) The fiber optics transmission line according to claim ~~23, characterized in that~~ 32, wherein the length of the graded index fiber having a mode field diameter gradually increasing from a light entry side and decreasing toward a light exit side is 1/2 of a pitch, where one pitch denotes a length of the transmission line corresponding to one cycle during which the mode filed diameter of a light periodically changes along the transmission line.

25. (Currently Amended) The fiber optics transmission line according to claim 24, ~~characterized in that~~ wherein the length of the graded index fiber having a mode field diameter gradually increasing from a light entry side and the length of the graded index fiber having a mode filed diameter decreasing toward a light exit side, are both 1/4 of a pitch.

26. (Canceled)

27. (Canceled)

28. (Currently Amended) The fiber optics transmission line according to claim ~~23, characterized in that~~ 33, wherein the expanded mode field diameter of the graded index fiber falls within a range from 15 to 85 μm.

29. (Currently Amended) The fiber optics transmission line according to claim 28, ~~characterized in that~~ wherein the expanded mode field diameter of the graded index fiber falls within a range from 15 to 65 μm.

30. (Currently Amended) The fiber optics transmission line according to claim ~~23, characterized in that~~ 33, wherein the core diameter of the graded index fiber is 1.5 times or more the expanded mode field diameter of the graded index fiber, which is obtained at a location 1/4 of a pitch from the light entry side thereof.

31. (Currently Amended) The fiber optics transmission line according to claim 30, ~~characterized in that~~ wherein the core diameter of the graded index fiber is 2 times or more the expanded mode field diameter of the graded index fiber, which is obtained at a location 1/4 of a pitch from the light entry side thereof.

31. (New) A fiber optics transmission line comprising:

a single or a plurality of a graded index fiber inserted in the middle of a transmission line formed by a first single mode fiber, the first single mode fiber including a core having a predetermined refractive index and a cladding having a refractive index smaller than that of the core, the inserted graded index fiber comprising two parts, a first part having its mode field diameter gradually increasing from a light entry side and a second part having its mode field diameter gradually decreasing toward a light exit side; and

a second single mode fiber having a mode field diameter smaller than an expanded mode field diameter of the graded index fiber, the second single mode fiber being disposed between the first and second parts of the graded index fiber.

32. (New) A fiber optics transmission line comprising:

a single or a plurality of a graded index fiber inserted in the middle of a transmission line formed by a first single mode fiber, the first single mode fiber including a core having a predetermined refractive index and a cladding having a refractive index smaller than that of the core, the graded index fiber being connected to the first single mode fiber through a connector in the middle of the fiber optics transmission line, the inserted graded index fiber comprising two parts, a first part having its mode field diameter gradually increasing from a light entry side and a second part having its mode field diameter gradually decreasing toward a light exit side; and

a second single mode fiber having a mode field diameter smaller than an expanded mode field diameter of the graded index fiber being inserted between the two parts of the second single mode fiber being disposed between the first and second parts of the graded index fiber.

33. (New) A fiber optics transmission line comprising:

a single or a plurality of a graded index fiber inserted in the middle of a transmission line formed by a first single mode fiber, the first single mode fiber including a core having a predetermined refractive index and a cladding having a refractive index smaller than that of the core, the graded index fiber being connected to the first single mode fiber through a v-groove in the middle of the fiber optics transmission line, the inserted graded index fiber comprising two parts, a first part having its mode field diameter gradually increasing from a light entry side and a second part having its mode field diameter gradually decreasing toward a light exit side; and

a second single mode fiber having a mode field diameter smaller than an expanded mode field diameter of the graded index fiber being inserted between the two parts of the second single mode fiber being disposed between the first and second parts of the graded index fiber